

IN THE CLAIMS:

1. (currently amended) A wafer conveyance system for transporting one or more wafers that undergo, while being transported, different processes at a plurality of wafer processing apparatuses~~[[,]]~~ inside which one or more wares are processed, the wafer conveyance system comprising:

(a) a hermetically closed chamber that defines an isolated environment inside which ~~provides a controlled atmosphere~~ is provided;

(b) at least one guide path provided inside the hermetically closed chamber;

(c) a plurality of ducts that each communicate the isolated environment of the hermetically closed chamber with the inside of one wafer processing apparatus such that the hermetically closed chamber is in communication with one or more wafer processing apparatuses;

(d) at least one mobile element being movable inside the hermetically closed chamber along the at least one guide path to transport one or more wafers from one wafer processing apparatus to another; ~~and~~

(e) at least one arm provided on each mobile element, each arm being accessible to the inside of each wafer processing apparatus through a corresponding duct to load one or more wafers into a wafer processing apparatus and unload the same therefrom; and

(f) a plurality of position sensors that detect positions of the at least one mobile element, the position sensors being deployed along each of the at least one guide path in such a manner that they are deployed at intervals of about 50 μ m near the wafer processing apparatuses while at wider intervals elsewhere.

2. (currently amended) A conveyance system in accordance with claim 1, wherein ~~said~~ the at least one mobile element is driven by a linear motor.

3. (currently amended) A conveyance system in accordance with claim 1, wherein ~~said~~ at least one guide path comprises a first magnetic field generating element for generating a magnetic field; and ~~said~~ at least one mobile element comprises a second

magnetic field generating element for generating a magnetic field, forming a linear motor in conjunction with ~~said-the~~ first magnetic field generating element, and conferring a propulsive force to ~~said-the~~ at least one mobile element.

4. (currently amended) A conveyance system in accordance with claim 2, further comprising a power supply element provided along ~~said-at least one~~ guide path; wherein an electric power is supplied to ~~said-the~~ at least one mobile element by means of ~~said-the~~ power supply element.

5. (currently amended) A conveyance system in accordance with claim 4, wherein ~~said-the~~ power supply element comprises a ~~lain an~~ electric cable ~~or electric coil~~ provided along ~~said-the~~ at least one guide path, and an electricity receiving element provided on ~~said-the~~ at least one mobile element for receiving the electric power supplied to ~~said-the~~ electric cable ~~or electric coil~~ without contact, whereby electric power is supplied to ~~said-the~~ at least one mobile element without contact.

6. (currently amended) A conveyance system in accordance with claim 25, further comprising:

a control element for generating control data for ~~controlling the operations of~~ said operating at least one mobile element;

a communication element provided on ~~said-the~~ at least one mobile element for performing data communication between ~~said-the~~ control element and ~~said-the~~ at least one mobile element; and

a mobile element control unit provided on ~~said-the~~ at least one mobile element for ~~controlling operations of said operating the~~ at least one mobile element based on the control data supplied from ~~said-the~~ control element through ~~said-the~~ communication element.

7. (currently amended) A conveyance system in accordance with claim 6, wherein ~~said-the~~ control element supplies electrical signals containing the control data ~~to-through~~ the electric cable ~~or electric coil~~ provided along ~~said-the~~ at least one guide path; and

~~said the~~ communication element receives the electrical signals containing ~~the~~ control data supplied ~~to through~~ ~~said the~~ electric cable or electric coil by means of ~~said the~~ control element.

8. (currently amended) A conveyance system in accordance with claim 6, wherein ~~said the~~ communication element is selected from the group consisting of an optical communication element, a radio communication element or and a cable communication element provided ~~alongside of said the~~ at least one guide path.

9. (currently amended) A conveyance system in accordance with claim 6, wherein ~~said the~~ mobile element control unit is attached to ~~said the~~ mobile element on ~~the side of the direction of movement~~ a leading side of ~~said the~~ mobile element.

10. (currently amended) A conveyance system in accordance with claim 6, further comprising ~~a position detecting element for detecting a position of said mobile element moving along said guide path; and~~ wherein ~~said the~~ control element generates the control data based on detection results of from ~~said the~~ position detecting elements sensors and wafer conveyance requests from ~~said the~~ wafer processing apparatus.

11-12. (cancelled)

13. (previously amended) A conveyance system in accordance with claim 1, wherein the degree of air purity in said chamber is higher than the degree of purity outside said chamber.

14. (withdrawn) A conveyance system in accordance with claim 1, wherein a plurality of said mobile elements are provided on said guide rail.

15. (withdrawn) A conveyance system in accordance with claim 1, wherein a plurality of said wafer processing apparatus are arranged in a plurality of rows and a plurality of said guide rails are provided in correspondence therewith; at least one

mobile element is provided on each of said plurality of guide rails; and when transferring wafers between said guide rails of different rows, one or more wafers are exchanged between said wafer exchange elements of said mobile elements provided on the respective guide rails.

16. (withdrawn) A conveyance system in accordance with claim 1, wherein a plurality of said wafer processing apparatus are arranged in a plurality of rows and a plurality of said guide rails are provided in correspondence therewith; at least one mobile element is provided on each of said plurality of guide rails; and further comprising a wafer holding element capable of holding one or more wafers positioned between said plurality of rows of guide rails; wherein said wafer exchange element transfers one or more wafers to said wafer holding element when transferring one or more wafers between said guide rails of different rows; and said wafer exchange elements provided on said mobile elements positioned in guide rails of different rows receive said wafers held by said wafer holding element.

17. (withdrawn) A conveyance system in accordance with claim 1, wherein said wafer exchange element is capable of holding a plurality of wafers.

18. (withdrawn) A conveyance system in accordance with claim 1, further comprising a holding position adjustment unit provided on said mobile element for adjusting a holding position of a wafer by said wafer exchange element.

19. (withdrawn) A conveyance system in accordance with claim 18, wherein said holding position adjusting unit is attached to said mobile element on the side of the direction of movement of said mobile element.